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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,807	10/12/2005	Bastian Albers	P17214-US1	9912
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ERICSSON INC. 6300 LEGACY DRIVE M/S EVR 1-C-11 PLANO, TX 75024				
EXAMINER RICK, JASON D				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/526,807

Applicant(s)

ALBERS ET AL.

Examiner

JASON RECEK

Art Unit

2442

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 23-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 26 is/are rejected.
- 7) ☒ Claim(s) 23-25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S5108)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This is in response to the amendment filed on May 19th 2009.

Status of Claims

Claims 1-12 and 23-36 are pending.

Claims 1-12 and 26 are rejected under 35 U.S.C. 103(a).

Claims 23-26 are objected to.

Allowable Subject Matter

1. Claims 23-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Reasons for allowance were given in the office action dated February 19th 2009.

Response to Arguments

2. Applicant's arguments, see pg. 7, filed 5/19/09, with respect to the 101 rejections have been fully considered and are persuasive. The 101 rejection of claims 1, 3-10 and 23 has been withdrawn.
3. Applicant's arguments concerning the 103 rejections have been fully considered but they are not persuasive.

4. In response to applicant's argument that Radha does not disclose "a presentation time" as recited by claim 1 (pg. 8), it is noted that the features upon which applicant relies (i.e., definition of presentation time in the specification) are not recited in the rejected claim(s) but instead are contained in the specification. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

5. Applicant's argument that Radha discloses detecting missing packets only and therefore does not teach checking whether packets are correctly received is not persuasive. Detecting missing packets is the essence of determining whether or not something is correctly received. If it is missing, then it is not correctly received. Applicant again relies on the specification to support this argument. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

6. Applicant's argument concerning determining the delay budget (pg. 8) is not persuasive. This argument relies on applicant's first argument concerning presentation time, since that argument is not persuasive, it follows that neither is this one. The rejection has been revised to consider the new claim language.

7. Applicant's argument concerning the Zhu reference is not persuasive. Zhu clearly teaches retransmitting a packet "a retransmission request, which tells the server the identity of *the lost packet*" (col. 5 ln. 10-12). Applicant has not provided any reason why amending the claim to recite "selected" packet makes the limitation patentable over the art. The system of Zhu identifies the packet, thus it is "selected" for retransmission.

8. Applicant's argument concerning the Balachandran reference is not persuasive. Applicant argues that because Balachandran uses the term "block" it does not relate to a "packet" (pg. 9). This is not persuasive because a packet is a block of data. See Balachandran (Fig. 2, col. 3 ln. 45-46). Applicant also suggests that the play out time taught by Balachandran is different than comparing a delay budget to a delay requirement (pg. 9). This is not persuasive for at least two reasons. First, this argument is merely conclusory, no reasoning or support is given to support the conclusion. Second, Balachandran discloses that the play out is determined by the delay budget (col. 3 ln. 9-21). Thus even though Balachandran may use different terminology, it discloses the idea captured in the claim.
9. Applicant's arguments concerning the dependent claims repeat the arguments already presented, thus they are not persuasive for the same reasons.

Claim Objections

10. Claim26 is objected to because of the following informalities: the word "indiateds" on line one is misspelled, for art purposes it is being interpreted as "indicates". Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-8, 10-12 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Radha et al U.S. Pat. No. 6,700,893 B1 in view of Zhu et al. U.S. 6,085,252 and Balachandran et al. US 7,068,619 B2.

Regarding claim 1, Radha discloses transmission of “a plurality of data packets from a sender to a receiver in a telecommunications network, wherein the data transmission is performed over a link having limited transmission capacity” as streaming data over a network (Fig. 1), “a presentation time is defined for a first data packet of said plurality” as a time that a data packet must be delivered in order to be useful (col. 1 ln. 50-52), “the receiver performs a first check whether data packets are correctly received and at least one data packet is selected for retransmission” as the receiver detecting missing packets and requesting retransmission (col. 3 ln. 22-26), “determining a delay budget from the presentation time of the first data packet” (col. 2 ln. 58-60), “determining a delay requirement for the retransmission of the selected data packet” as calculating how long it will take to retransmit the lost data packet (col. 12 ln. 53-55), “comparing the delay requirement and the delay budget” as comparing the budget with the transmission requirement (col. 15 ln. 41-50).

Radha does not specifically disclose “retransmitting the selected data packet” however this is taught by Zhu as a QoS manager determines whether or not to request a retransmission based at least on a bandwidth budget (col. 5 ln. 10-16).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Radha by selectively retransmitting as taught by Zhu for the purpose of conserving bandwidth. Zhu suggests this by disclosing that too much data will slow down the network (col. 6 ln. 8-11).

Radha and Zhu do not explicitly disclose "the delay budget indicating a transmission capacity available for data packet retransmissions without delaying the first data packet beyond the presentation time" however this is taught by Balachandran as determining a delay rate (budget) and aborting recovery if the data would not be received in time (buffer underflow). See Balachandran (col. 2 ln. 35-46, col. 3 ln. 9-35).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Radha and Zhu with the teaches of Balachandran for the purpose of maximizing bandwidth. Balachandran teaches that by using a delay rate (delay budget) streaming data performance is improved (col. 2 ln. 27-46).

Radha, Zhu and Balachandran do not explicitly teach selectively retransmitting the first data packet "if the delay budget is at least equal to the delay requirement, otherwise cancelling the retransmission" however the concept of selective retransmission is disclosed by Zhu as discussed above and the concept of cancelling a retransmission is taught by Balachandran as discussed above (aborting recovery). It would have been obvious to one of ordinary skill in the art at the time of the invention to cancel a retransmission request if the delay budget is less than the delay requirement. Balachandran suggests doing so when the next data block will not be received in time (col. 2 ln. 42-44).

Regarding claim 2, Radha discloses "the receiver stores data packets in a buffer with a buffer fill level and wherein the delay budget is a function of the buffer fill level" as a buffer for receiving packets and a delay budget controller that monitors the fill level or underflow status of the buffer (col. 5 ln. 64-67, Fig. 1).

Regarding claim 3, Radha discloses "the delay budget is determined from the presentation times for each of a group comprising at least two first data packets" as providing a delay budget controller capable of operating on streams of data packets (col. 3 ln. 9-14) thus a delay budget for a group of at least two packets exists.

Regarding claim 4, Radha discloses "the first data packets of the group are to be transmitted in a predefined sequence, and wherein additional data packets are to be added to the group, which are the next data packets for transmission in the predefined sequence" as the invention relates to a stream of data (col. 3 ln. 9-14) the packets have a predefined sequence, and "the adding of additional data packets to the group is stopped if the delay budget is expected to remain constant for further additional packets" as constraints that the delay budget must adhere to, one of which is that the budget is determined by packet retransmission time and thus only a finite number of packets may be selected (col. 12 ln. 60- col. 13 ln. 3).

Regarding claim 5, Radha discloses "the receiver requests retransmission of the at least one data packet in a status message" as the receiver requesting retransmission of selected packets by sending a status message that the packets were not received (col. 16 ln. 18-20, Fig. 6).

Regarding claim 6, Radha discloses "the delay budget is reduced by the delay requirement if a retransmission is performed" as a delay budget that consists of delay requirement thus when retransmission is performed the delay requirement is no longer and the delay budget would be reduced (col. 12 ln. 52-65).

Regarding claim 7, Radha discloses "a further comparison of the delay budget with a further delay requirement is performed before a further calculation of the delay budget" as calculating the delay budget once, and then continually comparing the budget with the delay requirement for a particular packet (col. 16 ln. 2-17, Fig. 6).

Regarding claim 8, Radha discloses "the delay budget is updated if a present rate of the data transmission is lower than the limit of the data transmission capacity" as a delay budget that adapts to network conditions (col. 11 ln. 10-12) such as round-trip delay and bandwidth (col. 11 ln. 51-52).

Regarding claim 10, Radha discloses "a presentation time of the at least one selected data packet is compared to an estimated arrival time of the at least one

selected data packet at the receiver in a further check and wherein the retransmission of the at least one selected data packet is performed according to the result of the further check” as a time that a data packet must be received in order to be used (col. 1 ln. 50-52), the purpose of the invention is to eliminate wasteful retransmission, the arrival time is determined from the retransmission time and if successful the packet will be recovered (col. 13 on. 35-42).

Regarding claim 11, it is directed towards a sender for performing the method of claim 1 and is therefore rejected for the same reasons as claim 1. However, Radha does not specifically disclose that the sender has ability to “define a presentation time for a first data packet” nor “determine a delay budget” nor “determine a delay requirement”. Radha discloses the receiver as having these capabilities (col. 2 ln. 58-60, Fig. 1) and furthermore teaches that the sender and receiver may be PCs (col. 5 ln. 27, col. 6 ln. 9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Radha by providing the functionality taught in the receiver in the sender. It is well known in the art and yields predictable results to have a server perform functions for a client, by adding the ability to the sender to determine delay budget and delay requirement, the sender is now acting like a server and performing functions for the client.

Regarding claim 12, it is directed towards a receiver for performing the method of claim 1 and is therefore rejected for the same reasons as claim 1.

Regarding claim 26, Radha and Zhu do not explicitly disclose "the delay budget indicates the amount of time by which the first data packet can be delayed without resulting in a buffer underflow" however this is taught by Balachandran as determining a delay rate (budget) and aborting recovery if the data would not be received in time (buffer underflow). See Balachandran (col. 2 ln. 35-46).

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Radha, Zhu and Balachandran in further view of Hackenberg et al. U.S. Pat. No. 6,792,470 B2.

Regarding claim 9, Radha, Zhu and Balachandran do not disclose "a priority is attributed to the at least one selected data packet and wherein the retransmission is executed according to said priority" however this is taught by Hackenberg as determining the level of priority for a data frame and transmitting the frame with higher priority (col. 6 ln. 42-54, Fig. 6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Radha, Zhu and Balachandran with the priority attribute of Hakenberg. The motivation for doing so is to provide quality of service. It is well known

in the art that a priority attribute can be used to provide quality of service, doing so yields predictable results.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Darshan et al. US 2009/0100186 A1 discloses processing data streams, including determining presentation times (paragraphs 32, 54).

Robinson et al. US 2005/0198189 A1 discloses a presentation time for each frame of a media stream (paragraph 80).

Darshan et al. US 2004/0199658 A1 discloses that a presentation time is the time when data is supposed to be presented to the user (paragraph 15).

Gazit US 7,139,241 B1 discloses a method for preventing buffer underflow by using the presentation time (abstract, col. 4 ln. 4-8).

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON RECEK whose telephone number is (571)270-1975. The examiner can normally be reached on Mon - Fri 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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